

P&K Sand and Gravel, Inc.
Cumberland County
Naples, Maine
A-586-71-C-N

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Departmental
Findings of Fact and Order
Air Emission License
After-The-Fact

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

P&K Sand and Gravel, Inc., located in Naples, Maine has applied to renew their Air Emission License, permitting the operation of their concrete batch plant, rock crushing equipment, three diesel generators and boiler.

B. Emission Equipment

Concrete Plant:

<u>Equipment</u>	<u>Process Rate</u> (cubic yards/hour)	<u>Control Devices</u>	<u>Stack ID</u>
Concrete Batch Plant	150	Baghouse (2)	6

Portable Rock Crushers:

<u>Designation</u>	<u>Powered</u>	<u>Process Rate</u> (tons/hour)	<u>Control Device</u>	<u>Date of Manufacture</u>
Primary	Diesel	100	Water Spray	January 1989
Secondary	Diesel	100	Spray Nozzles	January 1989

Diesel Units:

<u>Source ID</u>	<u>Heat Input</u>	<u>Fuel Type,</u> <u>% sulfur</u>	<u>Max. Firing Rate</u>	<u>Power Output</u>
Generator #1	3.8 MMBtu/hr	Diesel, 0.05%	27.7 gal/hr	540 hp
Generator #2	0.7 MMBtu/hr	Diesel, 0.05%	5.1 gal/hr	100 hp
Generator #3	0.7 MMBtu/hr	Diesel, 0.05%	5.1 gal/hr	100 hp

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Other Fuel Burning Equipment:

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Stack #</u>
Boiler	1.4	#2 fuel oil, 0.35%	9.0	4

C. Application Classification

The previous air emission license for P&K Sand and Gravel expired on October 29, 2001. A complete application was not submitted on time, therefore P&K Sand and Gravel is considered to be an existing source applying for an after-the-fact renewal. The facility is determined to be a minor source and the application has been processed through Chapter 115 of the Department's regulations.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas. BPT for an after-the-fact renewal requires an analysis similar to a Best Available Control Technology analysis per Chapter 115 of the Department's regulations.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Concrete Batch Plant

A summary of the BPT analysis for particulate matter is discussed below:

PM emissions for the cement batching operation baghouse shall be limited to 5% opacity on a six (6) minute block average basis. Fugitive batching PM emissions from the concrete batching operation shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis.

C. Rock Crushers

The primary and secondary rock crushers are portable units manufactured in 1989, each with a rated capacity of 100 tons/hour. The rock crushers are not subject to NSPS Subpart OOO for Nonmetallic Mineral Processing Plants manufactured after August 31, 1983, with capacities greater than 150 tons/hr for portable plants and greater than 25 tons/hr for non-portable plants.

The regulated pollutant from the rock crushers is particulate emissions. To meet the requirements of BPT for control of PM emissions from the rock crushers, P&K Sand and Gravel shall control visible emissions to no greater than 10% opacity on a six minute block average.

P&K Sand and Gravel shall continue to maintain and operate water sprays for particulate control on all rock crushers.

D. Diesel Engines

BPT for the diesel engines is the following:

Total fuel use in the diesel units shall not exceed 30,000 gallons/year of diesel fuel, based on a 12 month rolling total, with a maximum sulfur content of 0.05% by weight and is therefore considered to be receiving BPT.

A summary of the BPT analysis for each of the pollutants is discussed below:

1. Chapter 106 regulates fuel sulfur content, however the use of 0.05% sulfur by weight fuel is more stringent and shall be used.
2. PM, PM₁₀, NO_x, CO and VOC emission limits are based upon AP-42 data dated 10/96 for diesel engines smaller than 600 horsepower.
3. Opacity shall not exceed 30% on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

E. Boiler

P&K Sand and Gravel operates the boiler for heating needs. The boiler has a heat input capacity of 1.4 MMBtu/hr firing #2 fuel oil with a maximum sulfur content of 0.35% by weight.

BPT for the boiler is:

- Use of 0.35% sulfur fuel.
- PM, PM₁₀, SO₂, NO_x, CO and VOC emission rates are based on AP-42 data dated 10/96 for #2 fuel oil fired boilers smaller than 100 MMBtu/hr.
- Visible emissions from the stacks serving the boiler shall not exceed 20% opacity on a six (6) minute block average basis.

F. Stock Piles and Roadways

BPT for all potential sources of fugitive PM emissions, including material stockpiles and unpaved roadways, shall be controlled by wetting with water, with calcium chloride, or other methods as approved by the Bureau of Air Quality to prevent visible emissions in excess of 10% opacity on a three (3) minute block average basis.

G. Annual Emission Restrictions

- 30,000 gallons (total) of diesel fuel (0.05% sulfur by weight maximum) in the diesel engines, based on a 12-month rolling total.
- 15,000 gallons of #2 fuel oil (0.35% sulfur by weight maximum) in the boiler, based on a 12-month rolling total.

Total Allowable Annual Emission for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/Year</u>
PM	0.8
PM ₁₀	0.8
SO ₂	0.5
NO _x	9.6
CO	2.0
VOC	0.7

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III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-586-71-C-N subject to the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. § 353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

- (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

(16) **Concrete Batch Plant**

- a. Particulate emissions from the cement silo and weigh hopper shall be vented through each of the respective 2 baghouses and all components of the batch plant shall be maintained so as to prevent PM leaks.
- b. To document maintenance of the two cement batching operation baghouses, the licensee shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance. The maintenance log shall be located at the facility whenever the facility is in operation.
- c. Opacity from the two cement silo baghouses are limited to no greater than 5% on a six (6) minute block average basis.
- d. Fugitive PM emissions from the concrete batching operation shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis.

(17) **Rock Crushers**

- a. P&K Sand and Gravel shall operate and maintain spray nozzles for particulate control on all rock crushers. Visible emissions from the crushers shall be limited to no greater than 10% opacity on a six minute block average.
- b. P&K Sand and Gravel shall maintain a log detailing the maintenance on the water spray nozzles. The maintenance log shall be located at the facility whenever the facility is in operation.
- c. P&K Sand and Gravel shall maintain a log detailing and quantifying the hours of operation on a daily basis for all rock crushers. The operation log shall be located at the facility whenever the facility is in operation.

(18) Diesel Units

- A. Fuel use records and receipts for Diesel #1, #2 and #3 shall be maintained for at least six years and available to the Department upon request.
- B. P&K Sand and Gravel shall not exceed the total use of 30,000 gal/year of diesel fuel (12 month rolling total), with a sulfur content not to exceed 0.05% by weight.
- C. Emissions from Generator #1 (3.8 MMBtu/hr) shall be limited to the following:

<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>lb/hr</u>
PM	0.12	0.46
PM ₁₀	n/a	0.46
SO ₂	n/a	0.20
NO _x	n/a	16.76
CO	n/a	3.61
VOC	n/a	1.33

- D. Emissions from Diesel #2 and #3 shall each be limited to the following:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.22
PM ₁₀	0.22
SO ₂	0.04
NO _x	3.09
CO	0.67
VOC	0.25

- E. Visible emissions from Diesel #1, #2 and #3 shall not exceed 30% on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

19) Boiler

- A. Fuel use in the Boiler shall not exceed 15,000 gallons/year #2 fuel oil, based on a 12 month rolling total, with a maximum sulfur content of 0.35%. Fuel use records shall be maintained on a 12-month rolling total.

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B. Emissions shall not exceed the following, based on a 12 month rolling total:

<u>Pollutant</u>	<u>lb/hr</u>
PM	0.17
PM ₁₀	0.17
SO ₂	0.49
NO _x	0.70
CO	0.05
VOC	0.01

C. Visible emissions from the Boiler shall not exceed 20% opacity on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a 3-hour period.

(20) Potential sources of fugitive PM emissions, including material stockpiles and unpaved roadways, shall be controlled by wetting with water, with calcium chloride, or other methods as approved by the Bureau of Air Quality to prevent visible emissions in excess of 10% opacity, based on a 3 minute block average basis.

(21) **Equipment Relocation**

a. P&K Sand and Gravel shall notify the Bureau of Air Quality, by a written notification at least 10 days in advance, prior to relocation of any equipment carried on this license. The notification shall be sent to:

Attn: Relocation Notice
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

The notification shall include the address of the equipment's new location and the license number pertaining to the relocated equipment.

b. Written notification shall also be made to the municipality where the equipment will be relocated, except in the case of an unorganized territory where notification will be made to the respective county commissioners.

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(22) **Rock Crusher Performance Tests**

- a. P&K Sand and Gravel shall have a performance test performed on the rock crushing operation. This consists of a 30-minute certified Method 9 observation on each rock crusher.
- b. The tests shall be completed within 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup of the units. P&K Sand and Gravel shall submit a test notice to the regional inspector at least 30 days prior to the performance test. Any rescheduled test only requires a 7-day notice to the regional inspector.

(23) P&K Sand and Gravel shall keep a copy of this Order on site, and have the operator(s) be familiar with the terms of this Order.

(24) P&K Sand and Gravel shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605-C).

(25) P&K Sand and Gravel shall pay the annual air emission license fee within 30 days of April 30th of each year. Pursuant to Title 38 §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under Title 38 §341-D, subsection 3.

(26) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 5, 2002

Date of application acceptance: February 6, 2002

Date filed with the Board of Environmental Protection: _____

This Order prepared by Mark E. Roberts, Bureau of Air Quality